

COMMONWEALTH OF VIRGINIA  
Department of Environmental Quality  
Water Division

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Subject: Guidance Memo No. 03-2004  
**Managing Water Monitoring Programs While Under Reduced Resources**

To: Regional Directors

From: Larry G. Lawson, P.E., Director



Date: February 10, 2003

COPIES: John Daniel, Karen Sismour, Alan Pollock, Darryl Glover, Regional Deputy Directors, Regional Water Permit Managers, Regional Compliance & Enforcement Managers, and Regional Water Monitoring Managers

**Summary:** This memo aids in implementing Virginia's Water Quality Monitoring Strategy during periods of reduced resources.

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**Disclaimer:**

**This document is provided as guidance and, as such, sets forth standard operating procedures for the agency. However, It does not mandate any particular method nor does it prohibit any particular method for the analysis of data, establishment of a wasteload allocation, or establishment of a permit limit. If alternative proposals are made, such proposals should be reviewed and accepted or denied based on their technical adequacy and compliance with appropriate laws and regulations.**

## **Managing Water Monitoring Programs While Under Budget Constraints**

To aid in implementing Virginia's Water Quality Monitoring Strategy during periods of reduced resources [in terms of both FTEs and non-personal services], DEQ monitoring activities are divided into the following two groups:

- Group 1 - Limited Discretion to Reduce Activities

The agency recognizes there is little management discretion to reduce resources dedicated to these monitoring activities due to the need to: 1. minimize environmental damage from pollution incidents; 2. provide key agency programs with needed data in a timely fashion; 3. meet commitments made by the Commonwealth; and/or, 4. ensure consistency and usefulness for statewide application of data. Every effort should be taken to fully implement the monitoring plans for these activities, including reduction in monitoring resources for activities listed in Group 2. Activities are listed in priority order.

- Group 2 - Management Discretion to Reduce Activities

These monitoring activities are considered important in providing a broad-based, comprehensive monitoring program for the Commonwealth. The goal is to conduct as much monitoring in these areas as resources allow to achieve the objectives in the Monitoring Strategy. However, management discretion exists to reduce resources dedicated to these activities based on budget constraints, either at the statewide or regional level. Any reduction in resources should be designed to maintain a balanced investment in each of these monitoring activities. No monitoring component should be entirely eliminated in any year without consultation among CO and RO staff. Activities not listed in priority order.

<u>Group 1</u>	<u>Comments</u>
Incident Response & Pollution Complaint	Investigation of pollution incidents is a top priority to minimize damage to environment.
TMDL monitoring	Commonwealth is committed to developing TMDLs in accordance with a federal court Consent Decree schedule. Supporting monitoring data is critical to completion of these TMDL special studies. Once a TMDL has been completed, monitoring can temporarily discontinue until the DEQ TMDL staff determines that implementation measures to address the source(s) of impairments are being installed. Monitoring can resume at the start of the following fiscal year, next scheduled monitoring station rotation, or where deemed necessary by the regional office or TMDL staff, as a new special study.
Chesapeake Bay Water monitoring	Commonwealth has committed to conducting monitoring of its portion of the Bay and its tributaries consistent with other Bay states.
Probabilistic monitoring	All regions need to complete their assigned probabilistic stations in order for DEQ to make defensible conclusions about water quality from a statewide perspective. The expanded habitat assessment methods for biological monitoring should be employed at the probabilistic sites.
Trend Stations	Trend analysis suffers from an interrupted data set.
Grant Funded monitoring or Other Non-General Funds	Seek grant funds based on adequate manpower and resources for match requirements. Implementation is required to meet agency grant commitments. Use non-general funds as needed and available and meet requirements for their use.

<u>Group 2</u>	<u>Comments</u>	<u>Guidelines and Considerations for Reducing Monitoring Activity</u>
Ambient Rotating Watershed Monitoring	Expands the geographic coverage of the ambient monitoring program - Contingent on the availability of adequate funding.	Parameters have already been reduced for FY04 No less than one station at the mouth of each watershed is suggested
Biological Monitoring [wadeable streams]	Continue enhancement of biological monitoring to include location of new reference stations, routine ambient stations, and inclusion of habitat assessment, as resources allow.	Each DEQ Regional Biologist currently monitors approximately 20-30 sites twice a year. The sites to be monitored should be prioritized in the following order (highest to lowest): a) Current reference sites, b) Sits involving immediate TMDL issues, c) Additional sites of special concern to the Regions and additional reference sites.
Lakes Monitoring	Implement lakes monitoring strategy to the extent allowed by budget.	a) Reduce the number of publicly accessible priority lakes monitored, per WQMIRA, to reflect the resources available in any given year. b) Retain for each priority lake selected for monitoring, per Guidance Memo No. 02-2004, a minimum sampling frequency of once monthly from April through October for one calendar year. c) Some "High Priority" lakes may warrant a sampling schedule above the minimum guidance requirement of seven runs (Apr.-Oct.) in one year out of the five. This is due to issues such as high recreational usage, shoreline development, or citizen concern. Such lakes may be monitored at a lesser frequency to be determined by the region once the minimum sampling frequency requirement of the lake guidance is met.
Citizen Monitoring	Support for citizen monitoring provides the Commonwealth with supplemental data.	Most regional offices spend little time assisting citizen groups except for giving advice on monitoring sites and following up on problems detected by citizen monitoring efforts. Such efforts could be prioritized as follows: a) Immediate and acute situation detected would be treated as a pollution complaint under Group 1 monitoring priorities. b) If citizen monitoring results in a 305(b) listing as a "Water of Concern" (formerly called threatened) it would be prioritized per "Threatened Waters" under Group 2. c) If indications are that there might be a concern, monitoring staff should evaluate and determine if a field visit is warranted. Citizen nominations for additional monitoring by DEQ can also be ranked: a) Waters in an area of high recreational use b) Waters that can be incorporated into the current or upcoming watershed rotation c) Waters that are a "Water of Concern" d) Waters in an area of another environmental concern e) Other specific local factors
Fish Tissue Monitoring	WQMIRA calls for an increase in the rate and amount of monitoring, contingent on the availability of adequate funding.	When fish-tissue-monitoring data indicate a potential area of concern due to elevated contamination levels and/or VDH requests such a study, special more intensive follow-up sampling will need to be performed. Special follow-up sampling of fish tissue by central office staff will need to be considered on a case-by-case basis as it is difficult to predict a level of follow-up monitoring that may be needed in any given year. Where appropriate, action plans should be submitted to the Agency Director for consideration for funding from VEERF in order to use available central office unit budget funds for continuation of the statewide fish tissue containment-monitoring program. Adequate routine fish tissue monitoring coverage on a statewide basis required approximately 300 sites to monitor all Virginia river basins during the last period of statewide monitoring. This involved sampling approximately 90-100 sites per year in order to accomplish this in slightly more than a three-year period (WQMIRA urged DEQ to convert to a three-year monitoring plan to cover the entire state if funding were available). a) Reverting back to a five-year statewide river basin monitoring rotation due to anticipated budgetary constraints and the recent reductions in central office staffing for this program would require approximately 60 site visits per year representing a 30-40% reduction in yearly effort. b) Recent wage staff reductions in the central office fish-tissue monitoring unit will require that staff from other central office OWQP units must be temporarily borrowed to assist in field collections in order for this reduced level of fish tissue monitoring to be accomplished in 2003. Even with this borrowed staff it may only be possible to monitor approximately 50 stations in calendar year 2003. This will be about a 50% reduction from the calendar year 2002 routine fish tissue contaminant-monitoring program.

<u>Group 2</u>	<u>Comments</u>	<u>Guidelines and Considerations for Reducing Monitoring Activity</u>
Other Special Studies		Conduct as priorities dictate and resources permit.
Chesapeake Bay Biological Monitoring	Valuable as overall assessment of Bay health status and restoration targets.	Extent of monitoring is based on contractual funds dedicated to this effort.
Chesapeake Bay Ambient Toxicity Monitoring	Provides information called for under the CBP Toxics Strategy.	Scope of monitoring could be scaled back according to available funding; for a viable study, a minimum of 4 stations per stratum is required. The number of strata utilized is based on several variables (land use within study area, salinity, sediment type, etc.)
Kepone	Information needed by VDH to assess the status of Kepone contamination within the existing general advisory area.	<ul style="list-style-type: none"> <li>a) The Kepone monitoring effort was recently reduced from every year to once every two years. The analytical budget was also reduced by 50% so that only one half of the normal samples can be analyzed. This represents a 50% reduction in staff time and a 75% reduction in analytical funds over a two-year period.</li> <li>b) No monitoring is scheduled for 2003. The next monitoring would be in 2004</li> <li>c) After the data for the fish collected in 2002 becomes available, DEQ will consult with the Virginia Department of Health to determine if monitoring efforts in 2004 and beyond can be further reduced. Monitoring on a less frequent basis such as every fifth year will be considered.</li> </ul>
Sediment Monitoring (on its own)	Both the federal 106 program and the state WQMIRA specifically require sediment monitoring, so it is not feasible to eliminate the sediment monitoring.	Collecting one sediment sample at each fish-tissue-monitoring site under the reduced five-year routine fish-tissue monitoring program described under that monitoring heading would represent an approximate 50% reduction in yearly sediment monitoring analytical costs.
Threatened Waters (Waters of Concern)	Required by WQMIRA and increasingly expected by EPA as 303(d) follow-up.	<p>The following factors are ranked from highest to lowest:</p> <ul style="list-style-type: none"> <li>a) Fish Tissue Threatened (skip an assessment cycle and return to such sites)</li> <li>b) Single-sampled moderately impaired benthic sites.</li> <li>c) Lower exceedences of numeric standards</li> <li>d) Nutrient enriched waters</li> <li>e) Citizen monitored areas needing follow up</li> </ul>